

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 178 AND GATEWAY VILLAGE DRIVE IN ANNE ARUNDEL COUNTY. MD 178 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA FOUR-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH A EXCLUSIVE-PERMISSIVE LEFT TURN PHASE FOR N.B. MD 178 AND A RIGHT TURN OVERLAP FOR THE GATEWAY VILLAGE APPROACH. A CONCURRENT PEDESTRIAN PHASE FOR THE GATEWAY VILLAGE DRIVE APPROACH WILL ALSO BE INCORPORATED.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH SYSTEM PACKAGE AND AND TWO (2), FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS HOUSED IN A NEMA "6" BASE MOUNTED CABINET.

SPECIAL NOTE

THIS PROJECT WILL ALSO INCLUDE THE REMOVAL OF THE EXISTING TRAFFIC SIGNAL AT MD 178 AND SAM'S CLUB ENTRANCE.

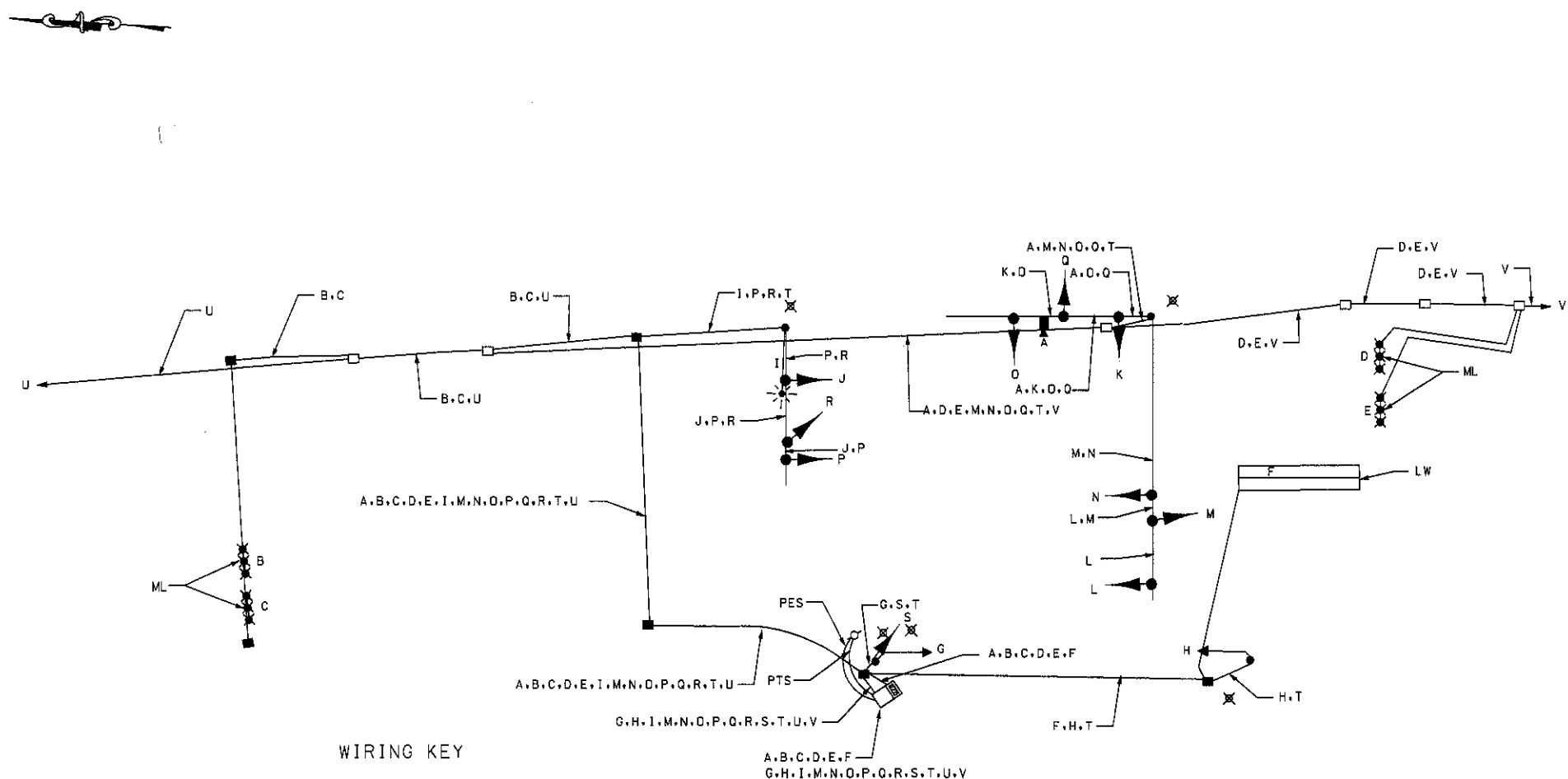
PHASING CHART

	1	2	3	4	5	6	7	8	9	10	8	9
PHASE 1 & 6	G	G	G	R	R	R	R	-RD	-RD	-RD	DW	DW
1 & 6 CHANGE	G	G	G	R	R	R	R	-RD	-RD	-RD	DW	DW
PHASE 2 & 6	G	G	G	G	G	R	R	-RD	-RD	-RD	WK	WK
PED. CLEAR	G	G	G	G	G	R	R	-RD	-RD	-RD	FL/DW	FL/DW
2 & 6 CHANGE	Y	Y	Y	Y	Y	R	R	-RD	-RD	-RD	DW	DW
PHASE 4	R	R	R	R	R	G	G	-RD	-RD	-RD	DW	DW
4 CHANGE	R	R	R	R	R	Y	Y	-RD	-RD	-RD	DW	DW
FLASHING OPERATION	FLY	FLY	FLY	FLY	FLY	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK

EQUIPMENT LIST "B" CONTINUED

ITEM NO.	QUANTITY	DESCRIPTION
8014	1 EA	FURNISH AND INSTALL 250 WATT HPSV LUMINAIRE
8019	3 EA	FURNISH AND INSTALL 8 IN. VEHICULAR SIGNAL HEAD SECTION
8020	1 EA	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT FOR SIGNAL
8021	1 EA	FURNISH AND INSTALL 38 FT. MAST ARM AND POLE
8028	2 EA	FURNISH AND INSTALL MICRO-LOOP PROBE SET WITH 1000 FT. LEAD-IN
8030	2 EA	FURNISH AND INSTALL PEDESTAL POLE ANY SIZE
8035	1 EA	FURNISH AND INSTALL TWIN MAST ARMS 50 FT./70 FT. AND POLE
8043	2 EA	FURNISH AND INSTALL NON INVASIVE PROBE WITH 1000 FT. LEAD-IN
8049	1 EA	FURNISH AND INSTALL VIDEO DETECTION CAMERA
8050	1 EA	FURNISH AND INSTALL VIDEO INTERFACE EQUIPMENT
8048	LS	REMOVE AND DISPOSE OF EXISTING EQUIPMENT
8051	200 LF	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED
8052	440 LF	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - BORED
8053	60 LF	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED
8057	12 CY	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
8059	80 LF	FURNISH AND INSTALL 4 IN. X 6 IN. WOOD SUPPORT
8060	710 LF	FURNISH AND INSTALL NO. 6 AWG STRANDED BARE COPPER WIRE
8068	30 LF	FURNISH AND INSTALL 1 IN. LIQUID TIGHT, FLEXIBLE, NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
8070	50 LF	FURNISH AND INSTALL ELECTRICAL CABLE 1-CONDUCTOR NO.4 AWG
8072	6 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8080	5 EA	FURNISH AND INSTALL GROUND ROD 3/4 IN. DIAMETER X 10 FT. LENGTH
8081	105 LF	FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR ALUMINUM SHIELDED
8083	160 LF	FURNISH AND INSTALL ELECTRICAL CABLE 3-CONDUCTOR NO. 14 AWG
8084	75 LF	FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR NO. 14 AWG
8085	2365 LF	FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR NO. 14 AWG
8086	250 LF	FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR NO. 12 AWG
8087	500 LF	FURNISH AND INSTALL LOOP WIRE ENCASED IN 1/4 IN. FLEXIBLE TUBING (NO. 14 AWG)
8088	600 LF	FURNISH AND INSTALL SAW CUT FOR LOOP DETECTOR
8091	160 LF	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED
8093	1 EA	FURNISH AND INSTALL CONTROLLER AND CABINET BASE MOUNT
---	2 EA	FURNISH AND INSTALL 4-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
---	1 EA	FURNISH AND INSTALL FIBER OPTIC I/O PANEL
---	1 EA	FURNISH AND INSTALL FIBER OPTIC REPEATER MODEM
---	1 EA	FURNISH AND INSTALL FIBER OPTIC TELEMETRY MODULES
---	2560 LF	PULL-BACK AND REINSTALL EXISTING CABLE
---	1210 LF	FURNISH AND INSTALL TELEMETRY INTERFACE CABLE
---	1210 LF	FURNISH AND INSTALL FIBER OPTIC MODEM CABLE
---	1210 LF	FURNISH AND INSTALL FIBER OPTIC TELEMETRY CABLE
---	1210 LF	FURNISH AND INSTALL TRACER WIRE
---	1 EA	FURNISH AND INSTALL W95-1 SIGN (24" X 78") MAST ARM MOUNT
---	2 EA	FURNISH AND INSTALL R3-4(L) SIGN (30" X 36") MAST ARM MOUNT
---	2 EA	FURNISH AND INSTALL R10-12 (MOD.) SIGN (36" X 42") MAST ARM MOUNT
---	1 EA	FURNISH AND INSTALL R10-12 SIGN (36" X 42") MAST ARM MOUNT
---	1 EA	FURNISH AND INSTALL R3-2 SIGN (24" X 24") MAST ARM MOUNT
---	2 EA	FURNISH AND INSTALL D3-2 DUAL FACE SIGN (VAR. X 16") MAST ARM MOUNT
---	5 EA	FURNISH AND INSTALL WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING "SHARKS TEETH"

WIRING DIAGRAM



A	VIDEO DETECTION 500 FT. PREMANUFACTURED CABLE	U	PROPOSED TELEMETRY INTERFACE CABLE, FIBER OPTIC MODEM CABLE, FIBER OPTIC TELEMETRY CABLE
B-E	MICRO-LOOP PROBE	V	EXISTING TELEMETRY INTERFACE CABLE, FIBER OPTIC MODEM CABLE, FIBER OPTIC TELEMETRY CABLE
F	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) ALUMINUM SHIELDED	PTS	PROPOSED TELEPHONE SERVICE
G-H	3 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)	PES	PROPOSED ELECTRICAL SERVICE
I	2 CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)	LW	LOOP WIRE (NO. 14 A.W.G.)
J-L	5 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)	ML	MICRO-LOOP PROBE
M-S	7 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)	X	GROUND ROD
T	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)		

NOTE: FOR INTERCONNECT WIRING DETAILS PLEASE SEE INTERCONNECT PLAN

EQUIPMENT LIST "A"

A. APPROVED SHA EQUIPMENT TO BE PURCHASED BY THE DEVELOPER AND INSTALLED BY THE CONTRACTOR. ALL EQUIPMENT IN THIS LIST SHALL HAVE CATALOG CUTS SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.

ITEM NO.	QUANTITY	DESCRIPTION
NONE		

CONTACT PERSONS FOR DISTRICT 5 ARE AS FOLLOWS:

MS. KIM TRAN ASSISTANT DISTRICT ENGINEER - TRAFFIC (410) 841-1003	MR. CHARLES GEORGE ASSISTANT DISTRICT ENGINEER - MAINTENANCE (410) 841-1002
MR. JOHN MAYS ASSISTANT DISTRICT ENGINEER - UTILITIES (410) 841-1005	
MR. RICHARD DAFF, SR. CHIEF, TRAFFIC OPERATIONS (410) 787-7630	MR. EUGENE BAILEY TEAM LEADER SIGN OPERATIONS (410) 787-7676
MR. ROBERT SNYDER ASSISTANT DIVISION CHIEF, TRAFFIC OPERATIONS (410) 787-7631	MS. DARLENE EIDE SUPPLY OFFICE SIGNAL SHOP WAREHOUSE (410) 787-7668
MR. ED RODENHIZER TEAM LEADER SIGNAL OPERATIONS (410) 787-7652	

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR ALL EQUIPMENT SHALL HAVE CATALOG CUTS SUBMITTED TO OOTS FOR APPROVAL PRIOR TO INSTALLATION.

ITEM NO.	QUANTITY	DESCRIPTION
1001	2 EA	MAINTENANCE OF TRAFFIC
2002	5 EA	TEST PIT EXCAVATION
5001	6 EA	FURNISH AND INSTALL PAVEMENT MARKING ARROW
5003	1 EA	REMOVE EXISTING PAVEMENT MARKING LETTER OR ARROW
5004	165 LF	FURNISH AND INSTALL 12 IN. WHITE HEAT APPLIED PERMANENT THERMOPLASTIC PAVEMENT MARKING
5005	135 LF	FURNISH AND INSTALL 24 IN. WHITE HEAT APPLIED PERMANENT THERMOPLASTIC PAVEMENT MARKING
5006	80 LF	FURNISH AND INSTALL 5 IN. WHITE HEAT APPLIED PERMANENT THERMOPLASTIC PAVEMENT MARKING
5007	1225 LF	FURNISH AND INSTALL 5 IN. YELLOW HEAT APPLIED PERMANENT THERMOPLASTIC PAVEMENT MARKING
5008	675 LF	REMOVAL OF EXISTING PAVEMENT LINE MARKING - ANY WIDTH
8003	1 EA	FURNISH AND INSTALL 500 FT. VIDEO CABLE TO CONTROLLER
8006	1 EA	CUT, CLEAN, AND CAP TRAFFIC SIGNAL STRUCTURE
8010	4 EA	FURNISH AND INSTALL 12 IN. PEDESTRIAN SIGNAL HEAD SECTION
8011	30 EA	FURNISH AND INSTALL 12 IN. VEHICULAR SIGNAL HEAD SECTION
8013	1 EA	FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM FOR SIGNAL POLE

EQUIPMENT LIST "C"

C. SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILLARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

ITEM NO.	QUANTITY	DESCRIPTION
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**MARYLAND DOT - STATE HIGHWAY ADMINISTRATION**  
*Office of Traffic & Safety*  
**TRAFFIC ENGINEERING DESIGN DIVISION**  
GENERAL INFORMATION  
MD 178 AND GATEWAY VILLAGE DRIVE

DRAWN BY: <u>M.HOWELL</u>	F.A.P. NO. <u>4278G1</u>	TS NO. <u>4278G1</u>	SHEET NO. <u>2</u> OF <u>4</u>
CHECKED BY: <u>J.ZAYDEL</u>	S.H.A. NO. <u>ANNE ARUNDEL</u>	T.I.M.S. NO. <u>F921</u>	
SCALE: <u>1" = 20'</u>	COUNTY: <u>ANNE ARUNDEL</u>	LOG MILE: <u></u>	
DATE: <u>11-1-03</u>			